

Hyperuricemia and Gout: How to Make it Crystal Clear

Biography



Professor James Cheng-Chung WEI (MD., PhD.) is currently Professor of Institute of Medicine, Chung Shan Medical University, Vice Superintendent and Director of Clinical Trial Center of Chung Shan Medical University Hospital, Taichung, Taiwan.

After his training in rheumatology and clinical immunology at Taichung and Kaohsiung Veterans General Hospital, Dr Wei undertook a fellowship at the Royal National Hospital for Rheumatic Diseases in Bath, UK, under Professor Andrei Calin. He pursued a research fellowship at the University of California, Los Angeles (UCLA), under Professor David Yu, investigating the pathogenesis of spondyloarthritis.

He has published 500+ articles in SCI journals, such as the NEJM, JAMA, Lancet, Annals of the Rheumatic Diseases, Arthritis & Rheumatology, International Journal of Epidemiology and Rheumatology. He had been the principal investigator of more than 150 global clinical trials and PI-initiated studies. He is currently the Editor-in-Chief of International Journal of Rheumatic Diseases and associate editor of the Frontiers in Immunology and Frontiers in Pharmacology.

His major interests are translational research in AS, clinical trials and big data epidemiological studies.

Abstract

Gout, an arthritis triggered by the deposition of urate crystals in joints and tissues, manifests as acute inflammatory episodes and chronic recurrent inflammation. Recent strides have led to novel strategies and medications aimed at treat-to-target of serum uric acid level and crystal clearance.

Foods to Avoid: Certain high-purine foods are implicated in raising serum urate levels and gout risk, including high-purine seafood and meat, alcohol (especially beer and spirits), and fructose-rich beverages and juices.

A low-purine diet, rich in fruits, vegetables, and low-fat dairy, is advised. Increased water intake is also beneficial for urate excretion.

Standard Pharmacological Treatments

Gout management traditionally focuses on relieving acute flare pain and inflammation, and on long-term urate-lowering to prevent crystal deposition and flare recurrence. **NSAIDs**, **colchicine**, and **glucocorticoids** are drugs of choices for acute gouty attack. **Xanthine oxidase inhibitors (XOI) and uricosuric agents** serve as long-term urate-lowering agents. The treatment goals are maintaining serum urate between 3-6 mg/dl for life-long. For tophaceous gout, the treatment target should be less than 5 mg/dl and aim for monosodium urate crystal clear.

Emerging Therapies

New xanthine oxidase inhibitor: New XOI are available and had demonstrated good efficacy (serum UA level reduction for 46% and 60-90% T2T) and safety (low rate of drug allergy), even in patients with renal impairment.

New URAT1 Inhibitors: Emerging URAT1 inhibitors, have shown potential in lowering serum urate levels for about 40-60% and 80-100% T2T (sUA <6 mg/dl) in phase II clinical trials. Tophi clearance was shown rapidly, compared to conventional therapies.

Conclusion

Gout and hyperuricemia require lifelong management, with dietary adjustments playing a crucial role alongside pharmacotherapy. Collaboration with rheumatologists and adherence to treatment plans are essential for optimal management, preventing joint damage and comorbidities. Patient education, compliance, and doctor-patient communication are key to managing this chronic condition effectively.